



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D4776-3
Job Sheet 169912



Part No: D4776-3

Job Qty: 10 ea

Part Name: Skidtube Clevis



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 1/3/18

Job Tracking No:

Due Date: 1/15/18

Created By: Mario Poulin

Type: Stock

Description:

Note: DWG REV D SHEET 2 IPP REV A: NEW ISSUE JFS 13/03/07 VERIFY BY: JLM IPP REV:B 13.09.26 AS PER REV.B DD VERF:JLM IPP REV:C AS PER REV. PC1 JFS 13/11/07 VERIFY BY: JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	10 Ea		1/12/18	0.00	0.00	Start Up Machining-3		SL 18/01/16
100	Bandsaw	10 pcs		1/12/18	0.00	0.18	Bandsaw1		SL 18/01/16
110	CNC Vertical Machining	10 pcs		1/13/18	0.26	8.70	HAAS1-5		SL 18/01/16
120	QC	10 pcs		1/13/18	0.00	0.00	QC2 Machining-3		SL 18/01/16
130	QC	10 pcs		1/13/18	0.00	0.00	QC8 Machining-3		SL 18/01/20
140	HandFinish	10 pcs		1/13/18	0.00	0.26	HandFinish1		2018/01/22
150	QC	10 pcs		1/13/18	0.00	0.00	QC7-4		BR 18-01-23
160	Powdercoat	10 pcs		1/15/18	0.00	0.12	Powdercoat1		BR 18-01-23
170	QC	10 pcs		1/15/18	0.00	0.00	QC3		38 11 JAN 22 2018
180	Packaging	10 pcs		1/15/18	0.00	0.00	Packaging3-2	5x 115	AT 9-89 18/01/23
190	QC21-SA	10 Ea		1/15/18	0.00	0.00	QC21		DAS 21 9-09 JAN 24 2016

Part Op 100 - Cut Blank at 4.400"
Descriptions: 110 - 1-Machine per folio FB168
160 - START TIME: 11:45

$B \# M138109 \times 7 = 2.60$
 $D \# M138152 \times 3 = 1.20$ so 32243
O.U.T. 320° FINISH: 12:15. M138467.

Job Allocations

Operation	Component Part	Required	Inventory	Allocated	Std Qty
90-Start up Operation	M6061T6B2.500X01.500	4	16	0	0

Part Specifications

Spec No	Description	Target/Tolerance	Limits	Type	Special Comments
1	Skidtube Clevis	4.250Inches $\pm$ 0.030	4.280 4.220		
2	Skidtube Clevis	2.250Inches $\pm$ 0.030	2.280 2.220		
3	Skidtube Clevis	1.688Inches $\pm$ 0.010	1.698 1.678		
4	Skidtube Clevis	0.880Inches $\pm$ 0.030	0.910 0.850		
5	Skidtube Clevis	0.510Inches + 0.010 - 0.000	0.520 0.510		
6	Skidtube Clevis	1.063Inches $\pm$ 0.010	1.073 1.053		

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION	AGAINST DEPARTMENT/PROCESS					
	Rework ☐	Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐		
	Scrap ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐		
	Use-as-is ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐		
	Suspected Unapproved ☐	Large Fab ☐	Composite ☐	Supplier ☐			

Date : _____	Step #: _____	QTY Effective : _____	MRB (QSI042) Approval
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Description Work Order Deviation	Disposition	Completed By
		Lead hand / Supervisor Verification

Job No: 169912
Start up Operation 01/16/18

Change No: _____
Operation: _____
Revision: _____
Original Serial #: S032777
PART NO: D4776-3

Root Cause		
Environment ☐	No Re-verification ☐	Pressure/Force ☐
Design ☐	Operator ☐	Bending ☐
Doc/Data ☐	Offset/Setup ☐	Centre Not Co ☐
Equip/Tooling ☐	Supplier ☐	Cracks ☐
Handling/Pre ☐	Training ☐	Crimp/Kink/Rip ☐
Material ☐	Use for Testing ☐	Cuffs ☐
Internal Transport ☐	Poor Information ☐	Crushing ☐
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐
LOA ☐	Product Improvement ☐	Wave/Twist in ☐
Substation ☐	Process Improvement ☐	Marks/Chatter ☐
Past Expiry Date ☐	Manufacturing Process ☐	
Misidentified ☐	Past Due ☐	OTHER : ☐

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DART
AEROSPACE
S032777

Skidtube Clevis

Coordinator Approval

Dimensions
der tolerance
rect
Missing
ed

sequence

7	Skidtube Clevis	1.380Inches $\pm$ 0.030	1.410 1.350	
8	Skidtube Clevis	0.190Inches $\pm$ 0.030	0.220 0.160	
9	Skidtube Clevis	1.000Inches $\pm$ 0.030	1.030 0.970	
10	Skidtube Clevis	0.484Inches $\pm$ 0.006 - 0.001	0.490 0.483	Diameter
11	Skidtube Clevis	0.500Inches $\pm$ 0.030	0.530 0.470	
12	Skidtube Clevis	0.550Inches $\pm$ 0.030	0.580 0.520	
13	Skidtube Clevis	3.150Inches $\pm$ 0.010	3.160 3.140	
14	Skidtube Clevis	1.130Inches $\pm$ 0.030	1.160 1.100	
15	Skidtube Clevis	0.688Inches $\pm$ 0.010	0.698 0.678	
16	Skidtube Clevis	0.397Inches $\pm$ 0.006 - 0.001	0.403 0.396	Diameter
17	Skidtube Clevis	1.813Inches $\pm$ 0.010	1.823 1.803	
18	Skidtube Clevis	0.190Inches $\pm$ 0.030	0.220 0.160	Radius
19	Skidtube Clevis	0.130Inches $\pm$ 0.030	0.160 0.100	Radius
20	Skidtube Clevis	0.440Inches $\pm$ 0.030	0.470 0.410	Radius
21	Skidtube Clevis	0.125Inches $\pm$ 0.010	0.135 0.115	
22	Skidtube Clevis	0.380Inches $\pm$ 0.030	0.410 0.350	
23	Skidtube Clevis	0.750Inches $\pm$ 0.030	0.780 0.720	
24	Skidtube Clevis	0.250Inches $\pm$ 0.030	0.280 0.220	Radius

Plex 1/3/18 10:59 AM dart.poulin.mario

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

DART AEROSPACE LTD		Work Order:	
Description: Skidtube Clevis		Part Number:	D4776-3
Inspection Dwg: D4776	Rev: D	Page 1 of 1	

INSPECTION SHEET

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
4.25	+/-0.030	4.251	✓		Ver	ED-6
2.25	+/-0.030	2.25	✓		H.G.	
1.688	+/-0.010	1.685	✓		H.G.	
0.88	+/-0.030	0.879	✓		Ver	ED-6
0.510	+0.010/-0.000	0.510	✓		"	"
1.063	+/-0.010	1.062	✓		H.G.	
1.38	+/-0.030	1.38	✓		Ver	ED-6
0.19	+/-0.030	0.19	✓		"	"
1.00	+/-0.030	1.000	✓		"	"
Ø0.484	+0.006/-0.001	Ø0.484	✓		G.P	
0.50	+/-0.030	0.50	✓		Ver	"
0.55	+/-0.030	0.549	✓		"	"
3.150	+/-0.010	3.145	✓		"	"
1.13	+/-0.030	1.128	✓		"	"
0.688	+/-0.010	0.688	✓		H.G.	
Ø0.397	+0.006/-0.001	Ø0.397	✓		G.P	
1.813	+/-0.010	1.812	✓		H.G.	
R0.19	+/-0.030	R0.19	✓		R.G.	
R0.13	+/-0.030	R0.13	✓		R.G.	
R0.44	+/-0.030	R0.44	✓		R.G.	
0.125	+/-0.010	0.126	✓		Ver	"
0.38	+/-0.030	0.38	✓		Ver	"
0.75	+/-0.030	0.75	✓		Ver	"
R0.25	+/-0.030	0.25	✓		R.G.	

Measured by: SC	Checked by: amr	QC Inspector:
Date: 18/01/16	Date: 18/01/20	Date:

Engineering Approval: (If necessary)	Date:
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Rev	Date	Change	Revised by	Approved
A	14.08.27	New Issue	KJ	
B	15.02.26	Dimensions revised	KJ	
C	15.11.03	Dimensions corrected per Dwg Rev D	KJ	